

Chapter 4

Assist Communities in Planning for and Responsibly Managing Growth

By 2010, 4.3 million people are expected to live and work in South Carolina. Like many Southeastern states, our state is growing rapidly, and protection of our rich natural resources, our historical locales, and our community and family values is critical. Future growth and sound economic development must be carefully planned and managed. DHEC works with local governments to develop innovative, cost-effective initiatives that can be used by communities to build the South Carolina of the future.

“Low Impact Development” eases stormwater burden

Poor land use planning has drastically altered the normal flow of stormwater. In the natural environment, a once slow-moving sheet of runoff water—filtered and cleaned of pollutants by plant material and gradually allowed to soak into the soil to replenish groundwater—is now a rapidly moving flow that goes directly into paved ditches and culverts. Because this directed amount of water is moving quickly along impervious streets and ditches, little filtering or soaking occurs. The sediment and pollutants end up in the nearest water body and must be removed at the drinking water treatment plant. There also is an impact from polluted stormwater on fish, aquatic insects and wildlife that depend on rivers and lakes.

Low Impact Development (LID) is a “new-old” approach to stormwater management that mimics the spongelike effects of a natural, undeveloped landscape. LID techniques allow stormwater to stay on-site and soak in instead of rapidly running off-site via pipe, gutter and curb systems. Some LID techniques include specially designed garden areas that receive and filter stormwater, porous paving, maintaining natural drainage courses, and installing vegetated roofs. By carefully designing and locating a number of LID-stormwater management measures throughout a site’s landscape, stormwater runoff can be controlled and natural resources and drinking water supplies protected. In 2003, DHEC’s Bureau of Water and Office of Ocean and Coastal Resource Management (see page 35) held conferences on LID for developers, builders, government officials and the public. LID techniques now are being used in South Carolina. DHEC staff also are promoting LID concepts among city and county managers and encouraging them to amend local ordinances to accommodate LID practices.

► <http://www.scdhec.gov/water/lid>

► **Richelle Tolton:** toltonrd@dhec.sc.gov (803) 898-4213

Anne Marie Johnson: johnsoam@dhec.sc.gov (803) 898-4187



Brownfields given new life

Brownfields are properties where expansion, redevelopment or reuse is hindered because of real or perceived environmental contamination. Many rural South Carolina towns have old, abandoned properties such as textile mills that could be redeveloped into new economic opportunities for their community, but contamination or the perception of contamination makes it difficult to attract a new business.

The Brownfields/Voluntary Cleanup Program provides communities opportunities to spur growth. Using U.S. Environmental Protection Agency (U.S. EPA) funding, DHEC conducts Targeted Brownfields Assessments within the political jurisdictions that need environmental assessment but do not have the staff or funding to do them. Also, DHEC has the Brownfields Cleanup Revolving Loan Fund, a total of \$4.25 million, available to lend for non-time-critical cleanups at brownfield sites across the state. Staff also review technical information, provide oversight, coordinate training, serve on task forces, and assist with public participation for cities and towns that have received additional U.S. EPA brownfield funding. As of June 30, 2003, 44 non-responsible parties had entered into Voluntary Cleanup Contracts (VCCs) with DHEC since 1996, and 36 responsible parties had entered into VCCs. Twenty-eight certificates of completion had been issued to parties who completed the work required under the VCC.

- http://www.scdhec.gov/lwm/html/vcp_info.html
- **Gail Jeter:** jetergr@dhec.sc.gov (803) 896-4069
- **Karen Sprayberry:** spraybkj@dhec.sc.gov (803) 896-4252



The S.C. Aquarium is a brownfields redevelopment site.

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Businesses get recycling assistance

Businesses and industries are often overlooked sources of solid waste, but they account for more than 40 percent of the total solid waste generated. The Business Recycling Assistance Program (B-RAP) is a unique partnership that provides technical assistance on waste management issues to businesses, industries, governments, organizations and others. B-RAP offers free, confidential, non-regulatory services including waste reduction and recycling opportunities, research and assistance in developing and locating markets for recyclable materials, updates on recycling legislation and incentives, training and educational seminars, and materials and publications.

In 2003, the program assisted about 500 companies on a variety of waste management issues, helped with workshops in several counties targeting business recycling, was awarded a U.S. EPA grant to set up a mercury lamp recycling program, and developed the S.C. Resource Conservation Challenge.

B-RAP, which began in the fall of 2001, is a partnership including DHEC's Center for Waste Minimization and Office of Solid Waste Reduction and Recycling, the S.C. Department of Commerce Recycling Market Development Advisory Council, and the University of South Carolina Industrial Ecology Program.

- <http://www.scdhec.gov/eqc/lwm/brap>
- **Eric Melaro:** melaroew@dhec.sc.gov (803) 896-4231



Projects address vehicle pollution

Take a Break From the Exhaust

As South Carolina's population grows, more vehicles join the roadways each year. A large contributor to air pollution is the exhaust from cars, buses and trucks.

For the past two years, DHEC's Bureau of Air Quality staff has participated in an alternative commute pilot project called "Take a Break from the Exhaust" (TABFTE). The project's goals are to reduce emissions from mobile sources, such as cars and trucks; increase awareness of the impact of mobile sources on air quality; and encourage DHEC employees to take voluntary actions to help improve air quality. In 2003, the project won the Governor's Pollution Prevention Award for state agencies.

DHEC encourages other state government agencies to implement practices that support a healthier environment. TABFTE encourages employers and employees to telecommute or provide “flex” scheduling to help improve air quality. TABFTE consists of a baseline survey tool administered electronically to all participants before the project starts to determine rideshare partners, total vehicle miles traveled by each employee, and additional data for evaluating the project. TABFTE results have been encouraging. Carpooling increased 34 percent from 2002 to 2003, and bicycling to work increased 10 percent. Additionally, more employees stay in for lunch or walk to lunch during Ozone Action Days. Furthermore, estimated nitrogen oxide reductions from vehicles for staff participating amounted to 12.77 percent. TABFTE project staff are currently working with other areas of DHEC and private industry partners to participate in this project for the 2004 ground-level ozone season.

► *Jack Porter:* porterje@dhec.sc.gov (803) 898-3829

SmartRide

During October 2003, the S.C. Department of Transportation sponsored the SmartRide Research Project to study the feasibility of a commuter mass transit system in the Columbia Metropolitan Area. Two morning routes from the Newberry, Irmo, Lexington and Lugoff areas allowed commuters to use free mass transit to travel into downtown Columbia; likewise, two evening routes carried commuters back out of the city. About 10 locations, convenient to many government offices, were selected as pick-up and drop-off locations. Several benefits were gained from the SmartRide Project. Commuters saved fuel and time, reduced the stress of driving, and had an overall increase in “well-being.” Removing vehicles from peak travel hours and the shift of commuters to mass

transit helped decrease traffic congestion and increase highway safety. Impacts to public health and the environment were also reduced from SmartRide, as fewer harmful pollutants from vehicles were released into the air. SmartRide proved to be a sound option. DHEC is a supporting partner of this initiative and is assisting SCDOT with calculating emissions reductions from this pilot project.

► <http://www.scdhec.gov/baq>

► *Chad Wilbanks:* wilbanmc@dhec.sc.gov (803) 898-7099



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Local planning addresses growing pains

Many of South Carolina's challenges concern issues that cross county and state lines and can be solved if local governments work together with state and federal agencies to find common solutions.

Sustainable Environment for Quality of Life (SEQL)

The SEQL project calls upon government, business and community leaders from North and South Carolina to address environmental issues that impact the quality of life and economic viability of the Charlotte-metro area. SEQL invites local leaders to work together on air quality, water quality and sustainable growth issues. The program supports the region's efforts to develop integrated and long-term solutions to ensure economic development and a positive

quality of life for its future. The project area includes 15 counties populated by 2.1 million people and encompasses more than 100 political jurisdictions. SEQL is funded by a U.S. EPA grant and is led by the Centralina Council of Governments and the Catawba Regional Council of Governments with support from DHEC, North Carolina's environmental agency, and the U.S. EPA. Some county measures being addressed are adopting a SEQL/Clean Air Resolution, coordinating with local county councils to build stakeholder groups, and working on ordinances that impact the environment such as tree planting, bike trails and parking with green spaces.

► **Diane Minasian:** manasids@dhec.sc.gov (803) 898-4467

Early Action Compacts

At the end of 2002, 45 of South Carolina's 46 counties, DHEC and U.S. EPA Region 4 had signed compacts to implement ozone reduction strategies earlier than federally required. As a party to the Early Action Compact, each county, along with the state, is committed to protect and improve the **air quality** of their local area before a new federal regulation goes into effect. Local governments, industry, environmental groups and other community groups throughout the state are working together to plan local strategies to prevent ozone pollution. Plans involve mobile source pollution reduction, outreach actions and point source prevention. The individualized plans incorporate flexibility and foster "home-grown" solutions.

In addition, DHEC has formed statewide stakeholder groups involving local and federal governments, industry, environmental groups and other interested parties to implement statewide strategies for reducing the precursors that form ground-level ozone (see page 40).



Local governments were required to finalize plans for emission reduction strategies in March 2004 through local early action plans. These local plans will be incorporated into DHEC's Early Action State Implementation Plan revision and submitted to U.S. EPA. The SIP revision must show that areas in South Carolina designated nonattainment for the new ozone standard will implement emission reduction strategies to return the area to attainment no later than December 2007. By doing so, the area has an opportunity to defer the effective date of the nonattainment designation, and, more important, to get the public health and environmental benefits of cleaner air sooner.

► <http://www.scdhec.gov/baq>

► *Henry Phillips:* phillimh@dhec.sc.gov (803) 898-3260

Action for a cleaner tomorrow curriculum supplements schools

"Action for a cleaner tomorrow: A South Carolina Environmental Curriculum Supplement" ("Action") is an activity-based interdisciplinary curriculum supplement that provides basic environmental education in the classroom. More than 21,000 teachers and educators have been trained on "Action" in free workshops held around the state since the curriculum supplement was introduced in 1993. In addition to being correlated to the state's science standards, Action in 2003 was correlated to the state's language arts, social studies and mathematics standards and the lessons, glossary and resource section updated.

► <http://www.scdhec.gov/eqc/lwm/recycle/html/action.html>



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Environmental Community Health responds to citizen concerns

DHEC's Office of Environmental Community Health (OECH, formerly Health Hazard Evaluation) changed its name in 2003 to reflect its role in working with communities. OECH evaluates community concerns about exposures to toxic substances, responds to environmental issues, and recommends ways to protect public health. Staff consult on health and develop toxicological profiles, provide health education on the effects of toxic exposures, respond to community concerns about harmful health effects of toxic exposures, get involved with the community and help communicate risk, manage the Adult Occupational Lead Program, and create fish consumption advisories.

The OECH also helps EQC staff communicate with citizens in public meetings and hearings. Staff direct public meetings and help mediate between leaders. The OECH plans and carries out DHEC's response to concerns a person or community may have about environmental health risks.

► (888) 849-7241 (Toll-Free Community Line)

► *Nancy Whittle:* whittlnc@dhec.sc.gov (803) 896-8967

Circuit Riders assist with cities' environmental concerns

In October 2001, DHEC received one-year funding from U.S. EPA to create a pilot program known as the S.C. Environmental Circuit Rider program. The pilot program reached 46 small cities and towns with offers for assistance in regulatory compliance. The initial project began in the Pee Dee with a representative from the Pee Dee EQC District and a representative from EQC's Center for Waste Minimization contacting every small municipality within



the Pee Dee region to offer compliance assistance. Written survey responses completed by the municipalities were overwhelmingly positive. Because of the program's success, the U.S. EPA authorized additional funds for expansion to the Greenwood area. The state's regulations are complex and often daunting to small businesses and governments. With this type of assistance, DHEC can help protect public health and South Carolina's environment by preventing pollution and reducing wastes.

► *Robert Jackson:* (864) 223-0333

Bob Burgess: (803) 896-8986

Jerry Baxley: (843) 661-4825

Ongoing challenges, new approaches

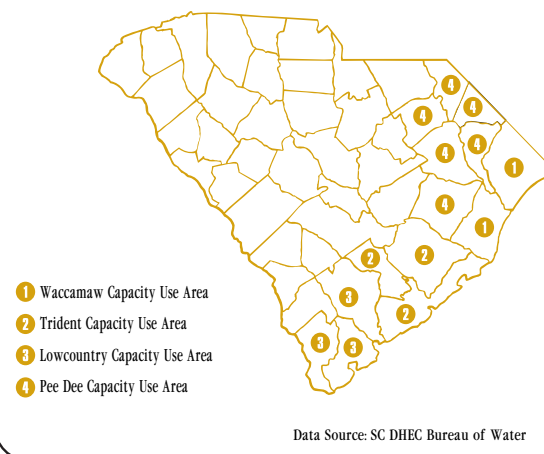
Development draining groundwater resources

Groundwater is a precious, limited resource that needs protection. Investigations in the Pee Dee area (Florence, Darlington, Marlboro, Dillon, Williamsburg and Marion counties) have shown progressive groundwater level declines and an increasing demand on the groundwater resource as a result of continuing growth. Before development, the groundwater level in the Middendorf aquifer measured in Florence was 110 feet above sea level. When measured in 2001, the groundwater level was 85 feet below sea level, a total decline of 195 feet. Groundwater levels in the Black Creek aquifer around the town of Andrews were approximately 55 feet above sea level before development. By 1995, they had declined to 198 feet below sea level, a decline of 253 feet. The most recent measurement in 2001 showed this level had recovered to 154 feet below sea level, but this is still a significant decline.

Groundwater conditions in the Pee Dee region were recently investigated to determine if designation as a **Capacity Use Area** is warranted. In a Capacity Use Area, anyone who withdraws 3 million gallons of water or more in any one month must have a permit from DHEC and report the amounts withdrawn so that water use can be tracked. Groundwater supplies of the Pee Dee region have been used to the degree that coordination and regulation of groundwater supplies are necessary to protect the supply.

► <http://www.scdhec.gov/water/html/capuse.html>

Areas Where Groundwater Withdrawal is Regulated



Additional resources:

U.S. EPA Residential Water Conservation Techniques

► <http://www.epa.gov/seahome/watcon.html>

U.S. EPA Brownfields Cleanup and Redevelopment

► <http://www.epa.gov/swerosps/bf/index.html>